



The Power of X2

The NEW SAPPHIRE HD4850 X2 Graphics Accelerator.

November 2008

Performance is our Passion....

Sapphire HD4850 X2



Computer Power	• 2.0 TFlops
Speed	• Engine Clocks: 625MHz • Memory Clock: 993 MHz
Memory Bandwidth	• 128GB/sec
Maximum Board Power	• 230 Watt
Stream Processor	• 1600(2 x 800)
Display	• Dual Link DVI-I x 4, HD TVOUT, HDMI supported by dangle



Performance is our Passion....

Sapphire HD4850 X2

2Gb Product Specification



- SKU:11139-00-40R
- 2 x HD4850
- 2 x 800 Stream Processors
- 2 x 1024M/2 x 256bit GDDR3 Memory Interface
- 625MHz engine/993 MHz(1986 Mbps) memory
- DL-DVI-I x 4/HDTV out
- Dual Slot ATX Form Factor
- Dual Slot Cooler with Dual FAN and fan speed control
- DirectX 10.1
- ATI CrossFireX™ Technology
- Unified Video Decoder 2
- PCI Express 2.0
- HDMI with 7.1 surround sound.
- HDCP
- 2 x 3 pin power connector+ 3 x 4 pin power connector

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Sapphire HD4850 X2

Key Advantage



Time for a mainboard upgrade ???

Sapphire HD4850 X2

Key Advantage



Enable the 3D power and output connectors of HD4850 CrossFire without the need for a mainboard with 2 x PCI-e slots !!

Performance is our Passion....

Sapphire HD4850 X2

Key Advantage



Or Enable the EXTREME 3D power of HD4850 Quad CrossFire without the need for a high end mainboard with 4 x PCI-e slots !!

Performance is our Passion....

Sapphire HD4850 X2

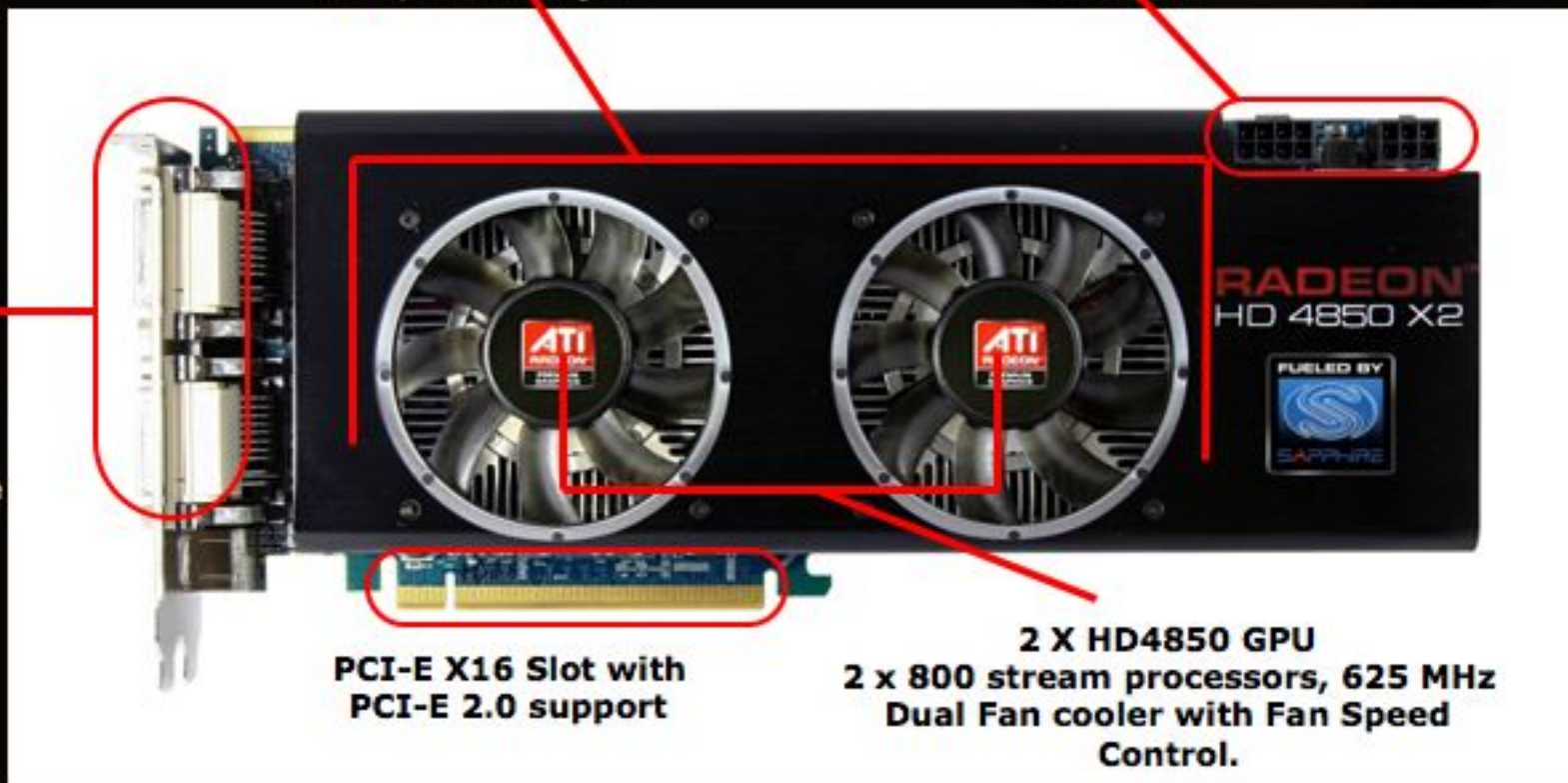
Key Features



**Mounted with 16 pcs of
x32 high speed 1.0 ns GDDR3
memory with 2 x 256 bit
memory interface support, 993
MHz, 1986 Mbps.**

**2 x 3 pin + 2 x 4 pin power
plugs provide up to 225 Watts
of power**

**DL-DVI-I
x 4,
supports
4
displays,
HDMI
support
via dongle**



**PCI-E X16 Slot with
PCI-E 2.0 support**

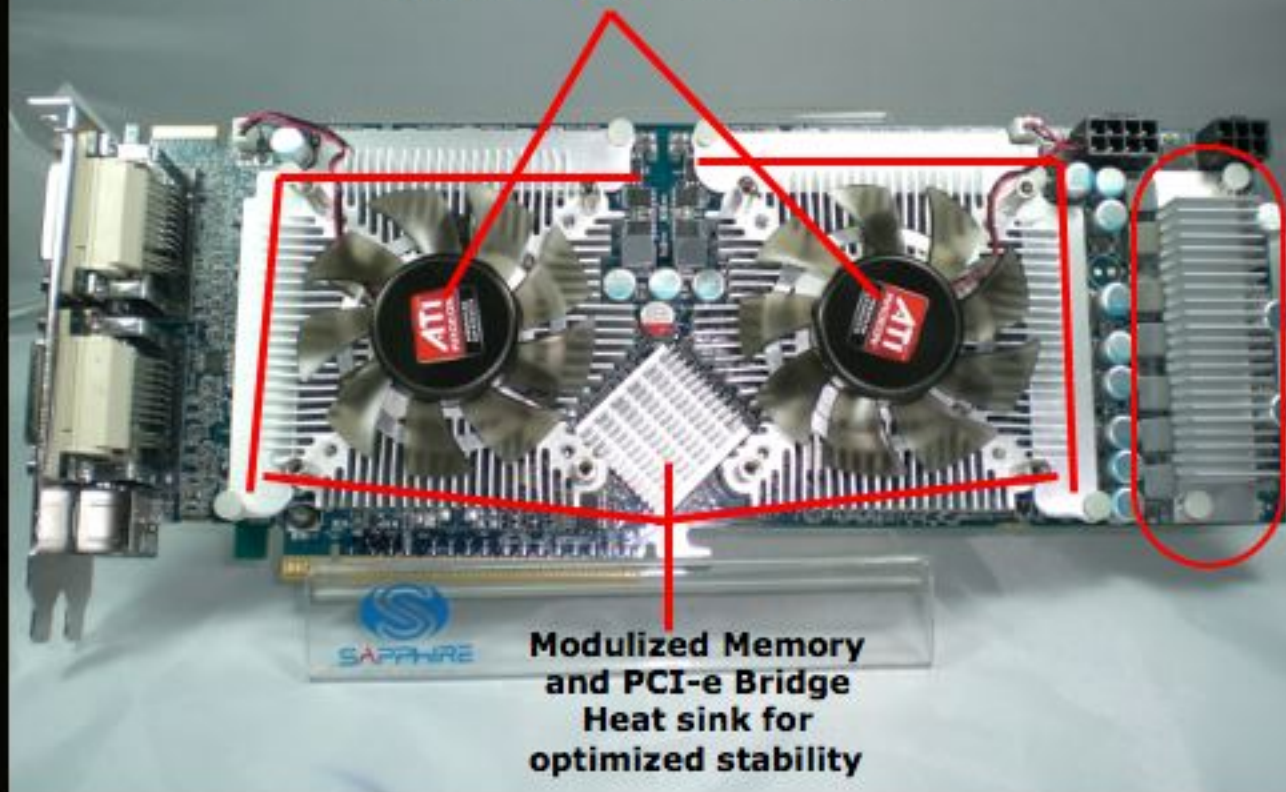
**2 X HD4850 GPU
2 x 800 stream processors, 625 MHz
Dual Fan cooler with Fan Speed
Control.**

Sapphire HD4850 X2

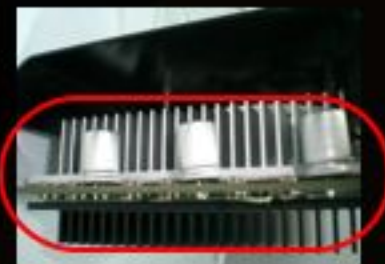
Thermal Design



Dual Fan design using
Copper Core Heat sinks for
dual GPU. Supports
dynamic fan speed control.



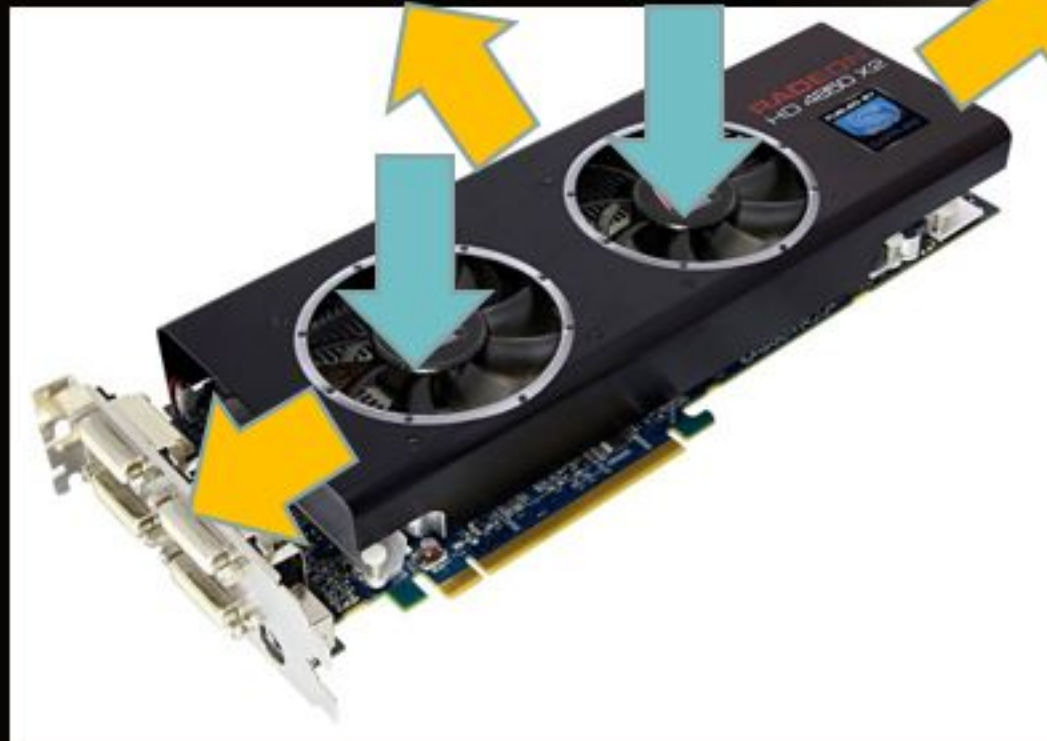
Modulized Memory
and PCI-e Bridge
Heat sink for
optimized stability



Mosfet Heat sink
with Power IC
Heat sink on the
back

Sapphire HD4850 X2

Thermal Concept

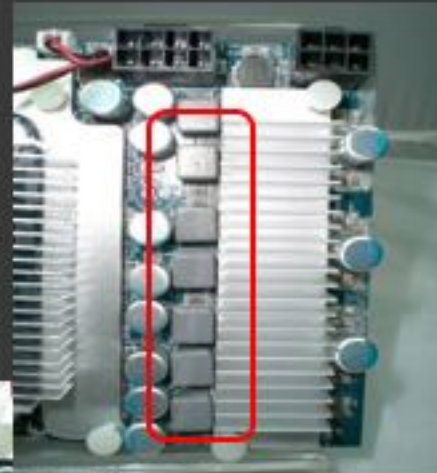


Performance is our Passion....

Sapphire HD4850 X2 – *Supreme Quality*



2 Ball Bearing Fan with Copper Core Heatsink



6 Phase Power Design for GPU



All Solid Capacitor Design



Power Detection with Overheat Protection



Low RDS(on) Power Mosfet, Lower Mosfet Temperature.

Sapphire HD4850 X2

Complete Flexibility



4 Simultaneous Displays Supported with combination of :-

- Up to 4 x DL-DVI Interface (up to 2560 x 1600 each)
- Up to 4 x HDMI (via adapter, up to 1080p)
- Up to 4 x VGA (via adapter)
- Analogue HDTV / Composite / S-VHS

Note: 4 displays supports only when CF is disabled. Maximum of 2 HDMI audio streams supported.

Performance is our Passion....

Sapphire HD4850 X2

Product Positioning



Ultra Enthusiast > \$350	HD 4870 X2 2 GB GDDR5	HD 4850 X2 2 GB GDDR3	GTX 280
Enthusiast \$200 - \$300	HD 4870 512 MB GDDR5	HD 4870 1 GB GDDR5	GTX 260
Performance \$150 - \$200	HD 4850 512 MB GDDR3	HD 4850 1 GB GDDR3	9800 GTX/+
Performance \$100 - \$150		HD 4830 512 MB GDDR3	9800 GT

Performance is our Passion....

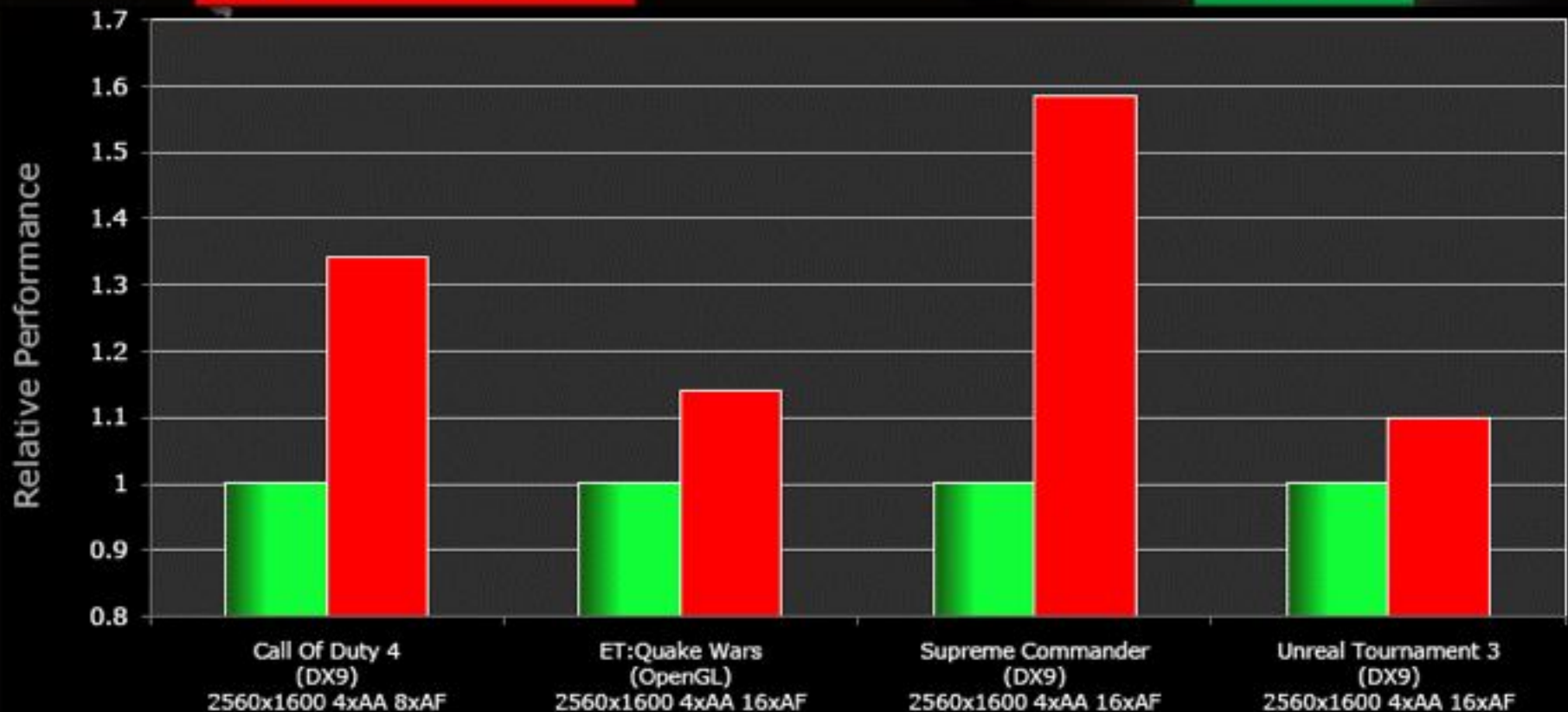
Sapphire HD4850 X2

*Clear winner in performance under
OpenGL and DirectX®9*



Sapphire HD4850 x 2

GTX 280



Performance is our Passion....

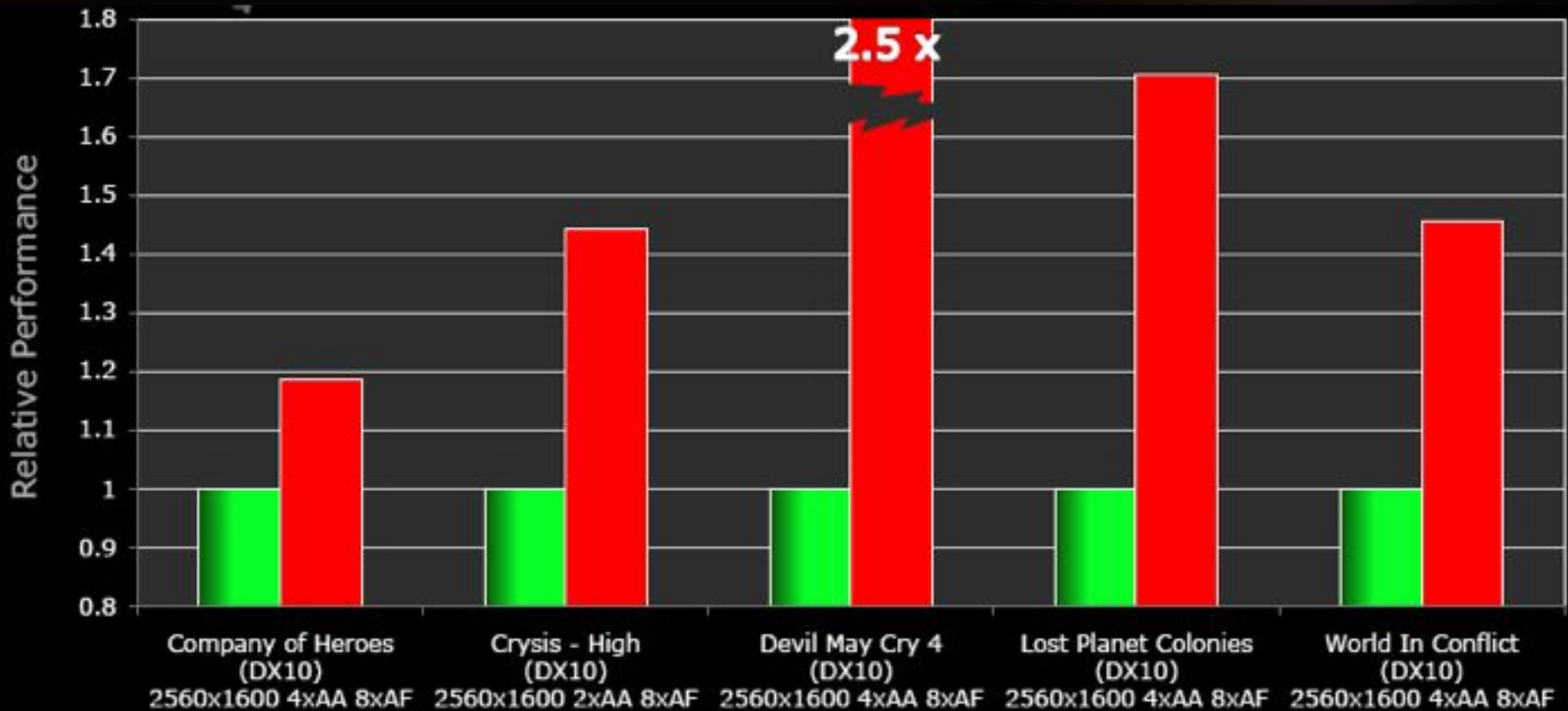
Sapphire HD4850 X2

*Clear winner in performance under
DirectX®10*



Sapphire HD4850 x 2

GTX 280



Performance is our Passion....

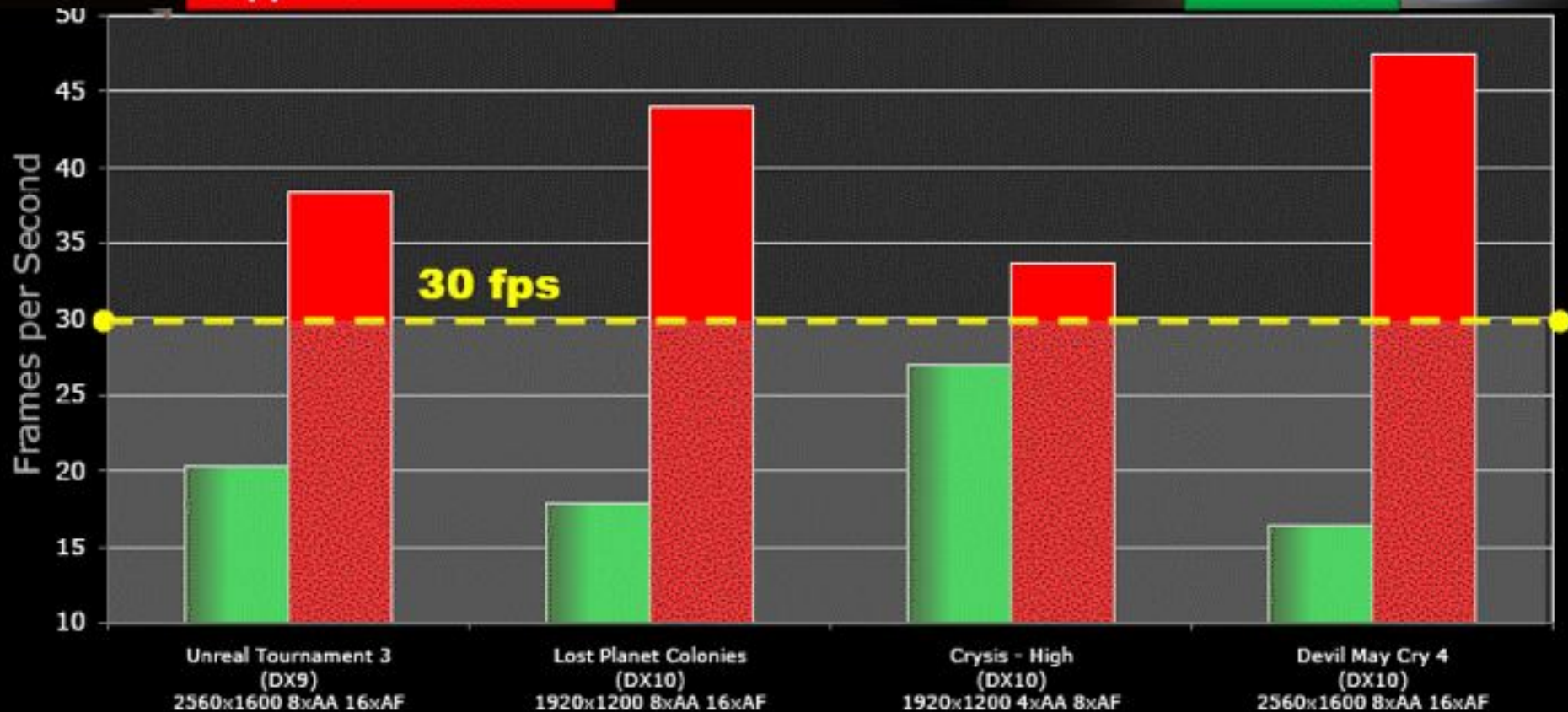
Sapphire HD4850 X2

Enjoy Extreme HD Gaming



Sapphire HD4850 x 2

GTX 280



Even at Extreme High Definition Resolutions with AA / AF enabled, the HD4850 X2 has the power to deliver enough frame rate to make the playing experience smooth and enjoyable.

Performance is our Passion....

Sapphire HD4850 X2

Simply Better !



	Sapphire HD4850 x 2	GTX 280
Process Technology	55nm	65nm
Computer Power	2.0 TFLOPS	0.93 TFLOPS
Architecture	DirectX® 10.1	DirectX® 10
Frame Buffer	2GB/1GB	1GB
Display Support	DVI-I x4 + TVOUT	DVI-I x2+ TVOUT

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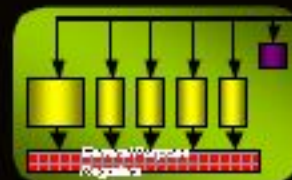
GPU Architecture



Stream Processor

- Computational engine block for GPU
- More Stream Processors = Faster and more Horsepower!

Stream Processor



Equivalent to Engine Block

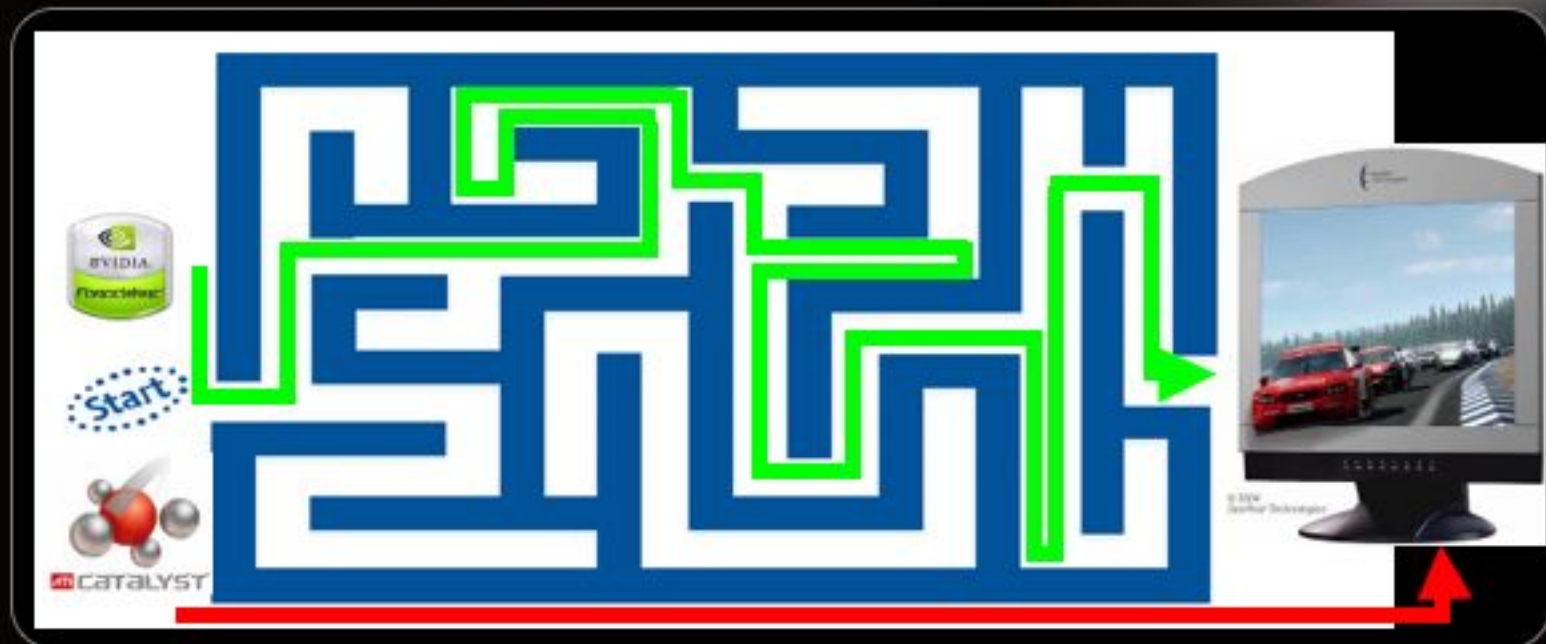


ATI Radeon Graphics have more Stream Processors than nVidia products !!

Catalyst Software Drivers



Brute force rarely gets you the fastest results.



ATI Catalyst: WHQL Certified Drivers released **every** month constantly optimizing code to be shorter, smarter and faster

ATI Catalyst™

Incredible Performance, Innovation, Stability



Every monthly release plans to deliver:-

Includes a Monthly Performance Boost for many of today's hottest games

Performance

Innovation

Stability



**ATI Catalyst Control Center™,
Quad CrossFire™,
ATI Hybrid Graphics**

**Industry's most stable Windows
Vista® graphics driver**

More than *20 million* users downloaded Catalyst in 2007!!*

Performance is our Passion....

PCI Express® 2.0

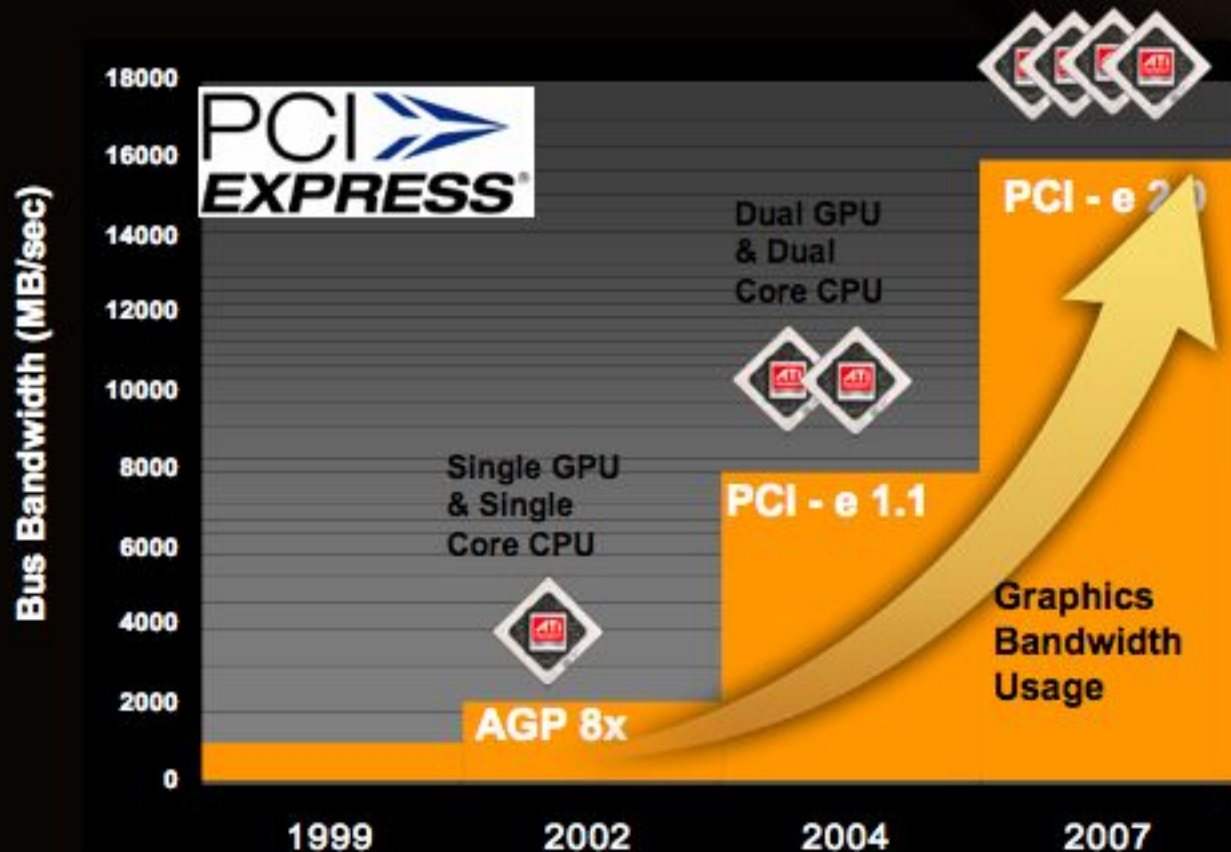
PC Graphics Interconnect Evolution



Doubles the bus data rate to 16GB/s

Up to 25% real world performance boost over PCI - e 1.1

**Quad GPU
& Quad
Core CPU**





Thank you!